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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,399	06/29/2001	Masatoshi Arishiro	018976-199	6008

7590 07/21/2004

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EXAMINER

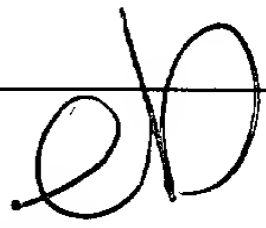
HARAN, JOHN T

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 07/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/893,399	ARISHIRO ET AL.	
	Examiner	Art Unit	
	John T. Haran	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3, and 5-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment and arguments filed on 6/14/04. The new matter rejection of claims 7-9 is withdrawn in light of the amendment to the claims.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, and 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04-239604 in view of JP 10-321457 and Baccini (U.S. Patent 6,109,323).

JP 04-239604 is directed to an apparatus for manufacturing laminated ceramic electronic components wherein the laminated ceramic components are formed by laminating a plurality of different ceramic green sheets. The apparatus comprises a sheet supplier comprising a plurality of trays, each tray holding a plurality of ceramic green sheets of the same type and each tray holding a different type of ceramic green sheet from other trays; a laminator for laminating a plurality of ceramic green sheets supplied from the sheet supplier; and a conveyor device for picking up single ceramic green sheets from the trays and conveying the ceramic green sheets to the laminator in a predetermined order (See English abstract and Figures 1 and 4).

JP 04-239604 is silent towards having a vertical rack for aligning the trays and a tray drawer device for drawing the trays from the vertical rack. However, it is well

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known and conventional in the ceramic art to store ceramic green sheets in a vertical magazine rack and remove single ceramic green sheets from the slots of the magazine in a predetermined order and convey them to a lamination station, as shown for example in JP 10-321457 (See Figure 5 and paragraph 0014 of English translation).

One skilled in the art would have readily appreciated that while JP 10-321457 has a rack with slots for holding individual ceramic green sheets and a sheet drawing device for drawing the sheets from the slots, such a rack and drawing device would be readily adaptable for the slots to hold trays with a plurality of ceramic green sheets in side and a drawing device for drawing out the trays. One skilled in the art would have readily appreciated that the trays of JP 04-239604 need to be stored somewhere and that it would be practical to have a vertical rack for storing and aligning the trays as is conventional in the art and consequently a tray drawer device for drawing the tray from the rack so the conveyor device can pick up the ceramic green sheets. It is also noted that the drawing device (35) of JP 10-321457 is situated on a rail to guide the drawing device (See Figure 5 and English translation paragraph 0015). Furthermore, it is notoriously well known and conventional in the drawing art for drawing devices to be arranged on a guide rail and JP 10-321457 is an example of such. One skilled in the art would have readily appreciated the drawing device would have a guide rail. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a vertical rack for aligning and storing the trays and a tray drawer device, arranged on a guide rail, for drawing the trays from the rack so the conveyor device can

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pick up the individual ceramic green sheets in the apparatus of JP 04-239604, as suggested in JP 10-321457.

JP 04-239604 teaches laminating the ceramic green sheets in a prescribed sequence but is silent towards there being a processor unit adapted to receive data concerning at least a type, an order in lamination, and a quantity of ceramic green sheets necessary for a laminate. However, it is well known and conventional to have fully automated systems for laminating ceramic green sheets in a predetermined order, as shown for example in Baccini (Column 2, lines 31-34). Baccini teaches having storage codes or identification plaques on the pallets (trays) for cooperating with code readers in providing correct organization from the automated system (Column 2, lines 60-64). One skilled in the art would have readily appreciated the code readers of the automated system are linked to a processor unit adapted for receiving pertinent information such as the quantity, type, and order of the ceramic green sheets in order for the automated system to stack the ceramic green sheets in the correct order. It would have been obvious to have an automated system with a processor unit adapted to receive data concerning at least a type, an order in lamination, and a quantity of ceramic green sheets necessary for a laminate, as is well known and conventional, in the apparatus of JP 04-239604, as suggested in Baccini.

One skilled in the art would have readily appreciated that either the tray drawing device needs to be movable to remove each tray from the magazine or the vertical rack must be movable to position each tray adjacent the withdrawal slider means. The two options are alternative expedients and are obvious one over the other in the absence of

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unexpected results. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a drive for driving the vertical rack to be raised and lowered in a vertical direction to position the trays at a predetermined height for removal by the tray drawing device in the apparatus of JP 04-239604.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a vertical rack for aligning and storing the trays and a tray drawer device on a guide rail for drawing the trays from the rack so the conveyor device can pick up the individual ceramic green sheets in the apparatus of JP 04-239604, as suggested in JP 10-321457; to have an automated system with a processor unit adapted to receive data concerning at least a type, an order in lamination, and a quantity of ceramic green sheets necessary for a laminate, as is well known and conventional, in the apparatus of JP 04-239604, as suggested in Baccini; and to include a drive for driving the vertical rack to be raised and lowered in a vertical direction to position the trays at a predetermined height for removal by the tray drawing device in the apparatus of JP 04-239604.

Regarding claim 3, JP 04-239604 teaches stacking ceramic green sheets of the same type in the trays and removing the top ceramic green sheet with a chucking device (See English abstract and Figure 1).

Regarding claim 5, JP 04-239604 teaches having a separate tray for each type of ceramic green sheet.

Regarding claim 6, JP 04-239604 teaches having a plurality of ceramic green sheets in each tray.

Regarding claims 7-9, one skilled in the art would have readily appreciated that the movement of the rack would depend upon the configuration of the rack. One skilled in the art would have readily appreciated that racks with a single column of slots for trays such as the one taught in Baccini would only need to be moved along the vertical axis. Additionally in racks with more than one column such as in JP 10-321457, one skilled in the art would have readily appreciated that there exists numerous ways of aligning the trays with the tray drawer device including moving the rack along the vertical axis and the tray drawer device along the horizontal axis. It would have been within the purview of one skilled in the art to determine the most efficient configuration of the rack and movement of the rack to align the trays with the tray drawer device.

Response to Arguments

4. Applicant's arguments filed 6/14/04 have been fully considered but they are not persuasive.

Applicant's arguments revolve around the assertion that there is no suggestion to modify JP 04-239604 to include a vertical rack for storing the trays and a tray drawing arranged on a guide rail for drawing the trays out of the vertical rack.

It appears from the specification that the objective of the invention is to have a manufacturing apparatus for manufacturing electronic monolithic ceramic components that includes a sheet supplier comprising a plurality of trays, each tray holding a plurality of ceramic green sheets of the same type and each tray holding a different type of ceramic green sheet from other trays; a laminator for laminating a plurality of ceramic

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green sheets supplied from the sheet supplier; and a conveyor device for picking up single ceramic green sheets from the trays and conveying the ceramic green sheets to the laminator in a predetermined order. JP 04-239604 teaches such an apparatus. As noted by Applicant, JP 04-239604 depicts the trays being arranged in a plane and is silent towards them being arranged in a vertical rack.

JP 10-321457 is also directed to the basic premise of the invention of providing an apparatus that allows for the manufacture of electronic monolithic ceramic components that are made by layering a plurality of different types of ceramic green sheets and laminating them wherein the apparatus provides means for storing the various types of ceramic green sheets prior to assembly and provides means for layering them in a predetermined order. This is accomplished by a conventional method using conventional means by storing the individual sheets in slots in a vertical rack and using a drawing device arranged on a guide rail to remove the sheets in a predetermined order and present them sequentially for layering. One skilled in the art would have readily appreciated that such a vertical rack and drawing device would be readily adaptable for use in the apparatus of JP 04-239604 for storing and drawing the trays and that trays need to be stored somewhere and it would be practical to use conventional means. There is ample motivation and suggestion to include a vertical rack for holding and aligning the trays and an associated tray drawing device arranged on a guide rail for drawing the trays from the rack in the apparatus of JP 04-239604 as suggested in JP 10-321457.

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It is again noted that acquiescence to the assertion that moving the drawing device relative to the rack and moving the rack relative to the drawing device are alternate expedients obvious over one another is maintained. Accordingly it is obvious to have a drive for raising and lowering the rack to move the rack into position for the drawing device to remove the desired tray.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John T. Haran** whose telephone number is **(571) 272-1217**. The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John T. Haran


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